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Columns

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**The Smithsonian
Institution's
National Museum
of Design**

cover:

Copy after Giocondo Albertolli (1742–1839)

Italy

Corinthian Capital, 1798

Pen and brown ink, gray wash drawing

Purchase, Friends of the Museum Fund

1938-88-3388

Columns

NA
2860
C77
C12
CHM

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The Smithsonian
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National Museum
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Claude Perrault,
translated by John James
**A Treatise of the Five Orders
of Columns in Architecture,**
London, 1708
Plate I: The Five Orders
Engraving
Gift of Abram S. Hewitt
Cooper-Hewitt Museum Library

Foreword

Columns inaugurates a second series of handbooks on objects in the Cooper-Hewitt Collection. The first set is devoted to specific collections; this one, like so many of the Museum's exhibitions, will focus on themes that cross departmental boundaries and have particular visual appeal.

The current revival of interest in classical design has encouraged us to explore the column—which, throughout its long history, has enjoyed varying degrees of popularity, both as a structural support and as a decorative element. Columns, along with capitals, are richly represented in the Cooper-Hewitt Collection in drawings, prints, rare books, photographs, wallpapers, textiles, and utilitarian and decorative objects of all kinds.

This first publication in the new series was made possible through the kindness of two of the Museum's major benefactors, the Andrew W. Mellon Foundation and the Arthur Ross Foundation. Its appearance coincides with the showing of the exhibition *The Column: Structure and Ornament*, which was also generously funded by the Arthur Ross Foundation, long known for its dedication to classical architecture.

Lisa Taylor
Director

Like many things of apparently simple purpose, columns are actually complex. Structurally, they are large posts erected to hold up roofs and ceilings, but artistically and symbolically they serve other purposes. Columns are among the most persistent of architectural elements, having been superseded neither by the clustered piers of medieval churches nor the chaste, squared-off geometry of the frames of twentieth-century buildings. Columns have been made of many materials—marble, granite, and other stone, as well as wood, iron, and concrete. They were and are essential to classical architecture, and they have also been used as ornament on all manner of decorative arts, from desks and tables to clocks and candlesticks.

Columns, in their posture against gravity, speak first of support. They also imply shelter, since they almost always hold up a roof or ceiling. And, when a number of them are set in line, they form a screen, a subtle and suggestive device that mediates between the unstructured, relatively chaotic space of the outdoors and the more rational and comprehensible enclosed architectural space that lies beyond them.

Although there is little tangible evidence for the theory that the

Roland Fréart de Chambray, translated by
John Evelyn
**A Parallel of the Ancient Architecture with
the Modern**, London, 1664
"Of the Corinthian Order"
Engraving
Cooper-Hewitt Museum Library

Primitive Buildings &c

The Second sort of Huts

The Second sort of Huts

The Third sort of Huts which gave birth to the Doric Order &c

The Doric Order in its Improved State

Origin of the Corinthian Capital

The Doric Profile of the Temple of Minerva at Athens, one of the most Ancient Monuments of that Order &c

A Plinth	E Capital	T Crown of the Column	4 Corona or Drip
B Lower Cornice	L Pilaster or upper Cornice	U Drip	5 Eave
C Pilaster or Square	M Entablature	W Pilaster or Volute	6 Caryatid
D Cornice	N Neck or base of Capital	X Triglyph	7 Pilaster
E Pilaster	O Pilaster or Column	Y Capital of the Triglyph	
F Upper Cornice	P Capital or Column	Z Capital of the Quarter Round	
G Capital or lower Cornice	Q Pilaster	1 Mould of the Quarter Round	
H Capital	R Mould of the Quarter Round	2 Mould	
I Shaft of the Column	S Pilaster	3 Eave	

William Chambers
A Treatise on Civil Architecture,
London, 1759
"Of the Origin of Buildings"
Engraving
Gift of Hamill and Barker
Cooper-Hewitt Museum Library

Claude Perrault, translated by John James
**A Treatise of the Five Orders of Columns in
 Architecture**, London, 1708

Plate IV: The Ionic Order
 Engraving

Gift of Abram S. Hewitt
 Cooper-Hewitt Museum Library

Circle of Etienne-Louis Boullée (1728–1799)

France

Temple of Curiosities

Pen and black ink, blue and brown wash
drawing

Gift of The Council of the Museum

1911-28-463

above left to right:

Egypt

Capital

Lithograph

Cooper-Hewitt Museum Picture Library

Giacomo Barozzi da Vignola

Regola delli Cinque Ordini d'Architettura,
1563

Plate XIII, Doric Order (detail)

Engraving

Gift of Henry O. Milliken

Cooper-Hewitt Museum Library

Capital from *L'Art Décoratif*,

Charles Claesen, Editor

Lithograph

Cooper-Hewitt Museum Picture Library

Cloister of Alcobaça

Portugal

Capital

Lithograph

Cooper-Hewitt Museum Picture Library

Capital

Lithograph

Cooper-Hewitt Museum Picture Library

Germany

Capital

Lithograph

Cooper-Hewitt Museum Picture Library

unsophisticated hut—by way of gradual refinement and artistic improvement—became the temple, the theory that primitive wooden roof-posts evolved into temple columns of stone is probably correct.

The celebrated basic Orders of classical architecture—Doric, Ionic, and Corinthian—appeared between the seventh and fourth centuries B.C., and, except during the Middle Ages, have been in use by architects ever since. Their appearance owed something to the robust Egyptian columns of earlier times, which the Greeks, inveterate sea-voyagers, knew well. But neither the mammoth Egyptian temple supports, with bulging capitals of gathered plant-forms, nor the more elegant and slender sculptured half-columns that projected from solid Egyptian walls were more than shadowy sources for the early Greeks.

Greek architects and sculptors sought to express the essence of the column in its design. They began with an elegant but recognizable representation of the column's function—the support of the weight above it—by developing an abstract representation of the nature of the juncture between vertical load and horizontal support—the Doric Order. Soon came the later, more embellished and more organic shapes of the Ionic Order—with its scrolled capital—and the Corinthian Order—with its tall bell of acanthus leaves terminating in diagonally projecting small scrolls or volutes. By the fourth century B.C., the development of the Greek classical columns, with their extended families of mouldings and bases, was essentially complete, and classical Greek temples and sanctuaries, public colonnades, and other columned buildings could be seen in most Mediterranean lands.

below:
Italy
Chimneypiece, 19th century
Pen and dark gray ink, watercolor drawing
Purchase, Friends of the Museum Fund
1938-88-3432

facing page, top:

Italy

Snuff Box, 19th century

Variegated agate, stone mosaic, gold mounts

Gift of Miss Susan Dwight Bliss

1967-48-14

Italy

Snuff Box, about 1840

Green porphyry, stone mosaic, gold mounts

Bequest of Sarah Cooper Hewitt

1931-6-24

below:

England

Birdcage, mid-19th century

Mahogany veneer, curly maple, and wire

Gift of Sarah and Eleanor Hewitt

1916-19-82

The Romans, when they took over these lands, were anxious to acquire a veneer of Greek culture and adopted the Greek Orders. They quickly began making changes in them, however, that became important for the history of Western architecture.

The fundamental parts of all the Orders are the same: base (missing in the Doric Order), shaft, capital, mouldings, and small light-and-shade details differing for each Order. In general, the complexity of the capital determines the complexity of the other parts. The height of the shaft is based on its diameter. Usually the shaft is six to eleven diameters high, depending on the Order. The capital should be recognizably one of the Orders, although the details and profiles can vary considerably. The Romans added the Composite Order, which has a Corinthian capital topped with large, prominent Ionic scrolls, as well as figured capitals and other variations and permutations. Variations in the essential shapes appeared in later ancient times—twisted forms, vine-clad shafts, and highly idiosyncratic capitals.

Slight changes in the ratio between the width and height of a column can lessen, if not destroy, the harmony and effectiveness of the design. The column itself, if it is not to appear mechanical and

above:
Antonio Donelli (active about 1750–1760)
Italy
Stage Design: Prison Interior
Pen and brown ink, gray wash drawing
Purchase, Friends of the Museum Fund
1938-88-461

left:
Germany
Caryatids
Lithograph
Cooper-Hewitt Museum Picture Library

Italy
A Twisted Column, 18th century
Pen and brown ink, gray wash, slight traces
of pencil drawing
Purchase, Friends of the Museum Fund
1938-88-3720

Probably by Joseph Dufour (1752–1827)
France
Wallpaper, about 1805
Woodblock printed
Gift of John Judkyn in memory of his
mother, Florence Judkins
1953-213-1

unsupple, must taper slightly as it rises to its capital. And this tapering, if it is not to appear rigid and uninteresting, must actually be curved subtly in silhouette. This effect, known as *entasis*, although it can go unnoticed by the untrained eye, gives the column a graceful appearance.

In antiquity columns were made of marble when resources permitted, but often a local stone that would take and hold a sharp edge was used. Colored marbles, tinted granites, and fairly rare stones were favored by the Romans, both in Rome and in the provinces. Shafts might be monolithic or built up from carefully fitted cylindrical drums. By the second century A.D., columns and other elements of decoration appeared in terra cotta, for by then the Orders were a part of all aspects of architecture, and what we now call classicism was as common in non-institutional and vernacular buildings as in the grand monuments most commonly associated with it.

The decision of whether or not to flute the column, that is, to channel the shaft vertically, is also complicated and depends on a number of factors: the amount of light that will fall on the column and the direction from which it will come, whether or not the architect

above:
Egypt
Capital
Lithograph
Cooper-Hewitt Museum Picture Library

right:
J. Zuber et Cie.
Rixheim, Alsace, France
Two panels from **El Dorado**, early 20th-century edition of the wallpaper originally printed in 1848
1540 hand blocks on paper
Gift of Dr. and Mrs. William Collis
1975-77-9,-10

above:
Pollio Vitruvius, Commentary by Daniello
Barbaro
I Dieci Libri dell'Architettura, Venice, 1556
Woodcut: Ionic Capital
Cooper-Hewitt Museum Library

right:
Charles-Louis Clérissieu (1722–1820)
France
Figures Near a Ruined Colonnade, 1761
Pen and black ink, brown and gray wash,
white gouache drawing
Gift of Mrs. Howard J. Sachs and Peter G.
Sachs in Memory of Edith L. Sachs
1978.168.42

wishes to emphasize the vertical aspects of his design, and other considerations. In view of these things, it is not surprising that a body of rules, sometimes all but impenetrable, has grown up to guide the less inspired in the correct use of the column. The story of these rules is more interesting than the rules themselves, which had to do with proportion, spacing between columns, and profiles and assemblies of mouldings. The process began as soon as the principles of the Greek Orders were established, but the only ancient book of rules we have to refer to is that of the Roman architect Vitruvius, who wrote an inordinately influential treatise, *The Ten Books on Architecture*, in about 25 B.C., early in the reign of Augustus Caesar. Manuscript copies of his work survived the Dark Ages, and after A.D. 1400 his work became a bible, to be quoted, puzzled and argued over, and ignored or followed according to time or taste. Today we know that Vitruvius, far from representing fairly the architecture of his time, was a very conservative man, proud of the knowledge he acquired in the field and in the library, but hardly receptive to the striking innovations of his day. He never mentions the grand experimental buildings of

Léonhard Chaillead, called Leonardo Scaglia
(active 1640–1650)
France, worked in Italy
Composite Capital with Figures
Pen and brown ink, brown wash drawing
Purchased in Memory of The Council of the
Museum
1947-57-3

Rome and its environs that pointed the way toward a new and vital spatial architecture to which the Orders would be adapted by Roman imperial architects. Instead, he gives much practical information about construction and a kind of embalmed codification of rules by which he and other less than inventive conservatives might achieve an adequate, respectable classicism.

This is not to say that Vitruvius's work is without value. On the contrary, it contains much precious information otherwise unrecorded. In the Renaissance his text became a kind of touchstone of propriety. But because Vitruvius wrote before the chief monuments of ancient Rome were built, before Roman reorchestrations of Greek elements had appeared fully defined, much of his text could not be coordinated with what Renaissance architects could see and measure. Vitruvius's bias in favor of later Greek design had,

through the accident of its preservation, put into the hands of Renaissance architects a work that they valued more for its authenticity as a genuine ancient text than for its content. Soon they began making their own rules for the Orders, the famous *regole*, which, though acknowledging Vitruvius's primacy, departed from his prescriptions—as his Roman successors had done—with impunity. Thus successive architects, from the mid-fifteenth century onwards, produced books of rules wherein they invoked the name of Vitruvius, a process that continued at least until early in the present century. Giacomo Barozzi da Vignola in the sixteenth century, Claude Perrault in the seventeenth, and many others wrote their own variations on Vitruvius; their names appeared on the title-pages of their followers, and thereby kept alive the Vitruvian rules, especially those for the design and proportions of columns.

Almost from the earliest times columns have been used on a variety of buildings, and it might be said that they are a symbol of the hallowed origins of Western Civilization, rather than an indication of the function of a building. The temple, the church, the bank, and the house have all made use of the column.

above:
France
Pilaster Capital, about 1810
Gilt bronze
Gift of Harriet Crocker Alexander
1907-1-40

above:
Meissen
Germany
Candlesticks, early 19th century
Porcelain
Gift of Miss Sarah Cooper-Hewitt
1931-84-18A,B

left:
Spain
Vargueño, 17th century
Wood, iron, velvet
Gift of Harvey Smith
1968-140-6,7

The column is related to the engaged column and the pilaster, both of which are really parts of walls but have the components and silhouettes of columns. The engaged column projects from a solid wall in a more or less half-round shape; the pilaster is flat and projects less. Pilasters are often found on walls directly behind fully round, free-standing columns, an ingenious device that responds to and reinforces the column's powerful sense of presence. Engaged columns and pilasters give the architect tools with which to break up and articulate otherwise largely unfeatured wall surfaces, giving them a rhythmic implied division that can lessen the monotony of a structural solid. They are also used in defining openings in walls by flanking them or dividing one opening from another. Pilasters and mouldings are often more subtle than they may at first seem, in part because of the shadows created by the details of their form. A properly classical building without mouldings is unthinkable because the play of light and shadow on these forms lies at the heart of the visual definition of architectural form.

Other than for certain memorial purposes, columns rarely stand alone. They usually appear in

Desfossé et Karth
France

Pilaster from a set of wallpapers entitled
Régence, 1863–1865
Woodblock printed
Gift of A. Germain
1955-3-3

England, about 1812
Hand block printed fabric
Cotton, plain weave
General Museum Purchase Fund
1975.60.32

above:
John Nash
Illustrations of Her Majesty's Palace at Brighton, London, 1838
Plate 23: Banqueting Room Gallery, or Green Drawing Room, (detail)
Engraving after Augustus Pugin (1762–1832)
Purchased in Memory of
The Council of the Museum
1951-128-1(23)

right:
John Nash
Illustrations of Her Majesty's Palace at Brighton, London, 1838
Plate 5: Center Part of the Steyne Front
Engraving after Augustus Pugin (1762–1832)
Purchased in Memory of
The Council of the Museum
1951-128-1(5)

France
Column with Statue of Napoleon,
Place Vendôme, Paris, about 1850
Woodblock printed
Gift of Sarah and Eleanor Hewitt
1928-2-91

file, set out along a straight line, or are used in pairs if they are not part of a facade supporting a triangular gable or pediment. This composition appears in a great variety of sizes, from the small niche in a church or house to majestic facades rising sixty to eighty feet in the air. Sometimes columns are set along curves, creating an ever-changing and complex pattern of relationships as the observer moves toward or around the building. All these combinations are of ancient origin, and all have been used in seemingly endless variety.

The Romans, after a number of trial attempts, perfected the marriage of columns with arches and added it to the basic classical repertory that had been established by the Greeks. The Romans also combined the column with the vault, an equally important development for the history of architecture. In such combinations, the column might be structural, an actual working member of a building, or purely visual, an element added for its symbolic value or in order to give a rhythmic vertical organization to the interior of a vaulted building.

While the Greeks had mixed the Orders, as in the celebrated fifth-century B.C. Temple of Apollo at Bassae, it was the Romans who

facing page:

Matteo Borboni (about 1610–1667)

Italy

Catafalque of Elisabetta Sirani, 1665

Pen and brown ink, brown wash, red and black chalk drawing

Purchase, Friends of the Museum Fund

1938-88-2503

right:

Leon Battista Alberti

L'Architettura, Florence, 1550

Woodcut: Basilica, Interior Façade

Cooper-Hewitt Museum Library

*Amphiteatro in conto il Palazzo e la parte inter-
na verso i Giardini*

above:

Giuseppe Barberi (1746–1809)

Italy

Amphitheater with a Colonnade

Pen and brown ink, brown wash drawing

Purchase, Friends of the Museum Fund

1938-88-1170

below:
Frederic Edwin Church (1826–1900)
United States
Column Drums from the Parthenon, 1869
Oil sketch
Gift of Louis P. Church
1917-4-574 A

facing page; top:
Oliver Smith (born 1918)
United States
**Stage Design: North African Coast, for
Maiden Voyage**, 1955
Pen and black ink, pencil and
watercolor drawing
Gift of Oliver Smith
1969-171-4

facing page, bottom:
Italy, Rome
Arch of Gallien
Engraving
Cooper-Hewitt Museum Picture Library

Antonio Basoli (1774–1848)

Italy

Stage Design: Egyptian Temple

Pen and black ink, gray to black wash
drawing

Purchase, Friends of the Museum Fund

1938-88-434

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began doing it regularly. The best-known example is probably the external configuration of the Colosseum in Rome. Here the three arcaded horizontal bands are treated with the three traditional Orders—in this case, in the form of engaged columns between the arches—with the Corinthian Order being repeated in the pilasters of the solid wall of the top, fourth story. Thus, by the fourth century A.D., most of the combinations of classical design elements that we see along streets today had been either perfected or attempted. This was not, however, the end of the story. Although the death of the classical column had been predicted in the eighteenth century, and, in fact, this quite reasonably could have come to pass, in 1748 an utterly unexpected event occurred—the rediscovery of Pompeii. This event, on which so much of archaeology and the history of art depends, brought classicism to the fore anew; indeed, the classical style quickly became the rage of the day. Piranesi's splendid etchings of Rome, ancient and modern, fueled the fire. During the next century, the academies of architecture, especially the Beaux-Arts in Paris, preached the tenets of classicism. Architects and their clients were well aware of the patriotic overtones of classicism. By

1900, the column had, for better or worse, largely displaced those other grand symbols of Western architecture, the medieval pointed arch and vault with piers. As in ancient Rome, size was important. Charles McKim said that scale was to be Roman and would be maintained—and indeed, when he designed Pennsylvania Station in 1910, it was.

The column has, curiously, provided both limitations and freedom for the architect. It is at the same time both a challenge and a useful tool. Historians continue to teach the principles of classical architecture, and since World War II, the column has reappeared. If this resurrection should turn out to be short-lived, no matter. The column, as a symbol of our past, will always command attention.

William L. MacDonald

above:
Egypt
Capitals
Lithograph
Cooper-Hewitt Museum Picture Library

above:
Persepolis
Capital
Engraving
Cooper-Hewitt Museum Picture Library

right:
Giacomo Barozzi da Vignola
**Livre Nouveau ou Regles des Cinq Ordres
d'Architecture**, Paris, 1767
Plate 30: Manière de diminuer et torser les
colomnes
Engraving
Cooper-Hewitt Museum Library

Tirato il Catheto di questa prima uoluta et un'altra linea in squadra che passi per il centro dell'occhio si diuide il detto occhio nel modo segnato di sopra nella figura A. et si comincia poi al primo punto segnato 1 et si gira col compasso una quarta di circolo dipoi al punto segnato 2. si gira l'altra quarta et così procedendo si fa i tre giri computamente. Per far poi la grossezza del listello si come egli è la quarta parte della larghezza che lascia di sopra il primo giro così si ha da partire ciascuna di quelle parti c'hanno seruito per centri in 4. et girando poi altre 12. quartie di circolo con quelli centri sarà fornita

Volendo fare la voluta nel modo qui sotto disegnata tirasi la linea detta Catheto la quale sarà alta parti 16. d'un modulo 9. parti deueno restare di sopra del centro et parti 7. disotto et in detto centro fare la diuisione della circonferenza in parti 8. come è disegnata. Dipoi deuesi fare il triangolo B.C.D. che la linea B.C. sia parti 9. d'un modulo et la linea C.D. sia parti 7. et perche si può uedere et conoscere per il disegno fatto per numeri parti che basti a saperlo formare. Dipoi deuesi rapportare su le linee che ne diuidon

The Orders
Engraving
Cooper-Hewitt Museum
Picture Library

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